

## CLAIMS

1. A magnetic element comprising:
  - a sintered body of magnetic ferrite made by firing mixed powder having iron oxide, cobalt oxide and zinc oxide as the main ingredients;
  - a conducting coil formed on the sintered body;
  - an insulating material covering at least the conducting coil;
  - and
  - a plurality of external electrodes connected to the conducting coil.
2. The magnetic element of claim 1, wherein the compounding ratio of iron oxide in the mixed powder is 50 mol% or smaller when converted to  $\text{Fe}_2\text{O}_3$ , and the compounding ratio of zinc oxide is 3 mol% or larger.
3. The magnetic element of claim 1, wherein
  - the sintered body is a rod-shaped insulator,
  - the conducting coil is a coil spirally provided around the insulator, and
  - the magnetic element has two of the external terminals and is used as an inductance element.
4. The magnetic element of claim 1, wherein
  - the sintered body is a magnetic insulator,
  - the conducting coil is provided in a meander shape or a spiral shape inside the magnetic insulator, and
  - the magnetic element is used as an impedance element.
5. The magnetic element of claim 1, wherein
  - the sintered body is a ring-shaped core,

the conducting coil is two coils wound in the same direction around the ring-shaped core, and

the magnetic element has four of the external electrodes connected to the two conducting coils and is used as a common-mode noise filter.

6. The magnetic element of claim 1, wherein  
the sintered body is a cylindrical core,  
the conducting coil is spirally wound around the cylindrical core, and

the magnetic element is used as an antenna element.

7. The magnetic element of claim 6 further comprising a threaded connecting section on at least one end of the cylindrical core.